

FORMATION AND DEVELOPMENT OF INNOVATION ACTIVITY AREAS AT THE INDUSTRIAL ENTERPRISE

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ABSTRACT

The current state of digitalization of the countries of the world has been investigated and the expediency of increasing the level of digital literacy of society has been substantiated. It has been established that a noticeable movement towards increasing digital competencies, which is associated with the introduction of information and communication technologies, was made both during the pandemic and in Ukraine - with the beginning of the full-scale Russian invasion. It has been proved that the key step in building open government is the use of e-democracy tools. Electronic democracy is singled out as a type of social relations in which citizens and organizations participate in the formation of the state and public administration, as well as local self-government through the active use of information and communication technologies in democratic processes. It has been proven that there is a need for cooperation with the private sector and the need to make many efforts to bridge the digital divide in cities and rural areas by extending e-government services to rural areas. The digitalization of customs is also important, which allows expanding the country's economic system and controlling the state of queues at checkpoints, automatically calculating the cost of customs duties, excise duties and other payments, as well as simplifying and speeding up the mechanism for submitting documents for customs control through the electronic cabinet. Proposals have been made to increase the efficiency of the use of information and communication technologies in the digital society.

Keywords

Digitalization, information and communication technologies, state formation and public administration, digital government services, information society.

Classification JEL: A 10, L 86

ANALYSIS OF RECENT RESEARCH AND PUBLICATIONS

In the context of the Russian-Ukrainian war and the post-COVID period, the issues of ensuring digital literacy of the population in order to ensure a high level of competitiveness are relevant. Problematic issues of digitalization of the economy were studied by scientists: Andriyiv N. (2022), Brodny J., Tutak M. (2022), Brynjolfsson E.& McAfee E. (2016), Cherep A. V. (2018, 2022, 2024), Cherep O. H. (2018, 2022, 2024) & Ohrenych Y. O. (2022), Shvets Y. O. (2018), Ohrenych Yu., Helman V., Gorbunova A. (2024), Ovander N.L. (2018), Paul-Jasper Dittrich (2020), Pavliuk A., Liapin D. (2012), Qiong Xu, Xin Li, Yu Dong & Fei Guo (2023), Rahmouni M. (2013), Ramachandran R. (2019), Repeta Yu. V. (2022).

It is digitalization that allows you to improve the quality of life of the population, both Ukrainians and the population in other countries of the world. Therefore, the topic is relevant and timely today and in the future.

The aim of the article is to develop e-democracy tools to increase the efficiency of the use of information and communication technologies in the digital society. It is proposed to use digital technologies in order to form an effective dialogue between the public and the state.

RESEARCH METHODS

In the process of scientific research, the method of grouping was used in order to analyze the development of digital public services and the introduction of special digital technologies by regions of Ukraine. Also, in the process of studying the tools of e-democracy, general economic and specific scientific methods were used, which made it possible to study the impact of digital technologies on the efficiency of decision-making and effectively manage financial flows, reform education to improve competence and creation of a stable economic system with the possibility of strategic planning. The proposed measures using synthesis methods make it possible to make proposals for reforming the processes of digitalization of social programs that provide support to the population.

RESULTS

Ukraine in 2024 ranked 5th in the world in terms of the development of digital government services according to the Online Services Index rating, which is part of the international study of the UN e-Government Development Index (table 1) (Ukraine is among the top 5 countries in terms of e-government services development, 2022).

Table 1. Online Services Index rating, which is part of the international study of the UN e-Government Development Index

Source: Ukraine is among the top 5 countries in terms of e-government services development, 2022:

Place in the ranking	Country
1	Republic of Korea
2	Denmark
3	Estonia
4	Saudi Arabia
5	UKRAINE
6	Singapore
7	Great Britain and Northern Ireland

Table 1 (continued)

8	New Zealand
9	Japan
10	Kazakhstan

During the development of the information society, information becomes not only the main means of increasing the competitiveness of the enterprise, but also the main source of cooperation and collaboration among enterprises. Moreover, the exchange of knowledge is possible not only among enterprises, but also directly from the enterprise to customers. Means of knowledge exchange are used by 5786 enterprises for 2024, with a tendency to increase in the following periods.

In order to spread mobile and Internet communication, to control the quality and speed of services provided, the Ministry of Digital Transformation of Ukraine created the BroadBand project (Project «Concept of development of digital competencies in the society of Ukraine» Cabinet of Ministers of Ukraine, 2020). On the project site, each user can provide location data and the program automatically measures the speed of the Internet. The site should check the availability of services throughout the country, their speed and, as a result, the collected data should become a prototype of the Internet map of Ukraine.

It is also important to remember that ISPs are private businesses that have a vested interest in making a profit. Creating conditions for controlled competition is the key to continuous improvement of their services by providers, to competition in the price level, which will reduce existing prices and to the constant expansion of the network, which will help the state digitalization to be comprehensive.

To achieve the digitalization of all existing regions in Ukraine, special programs are also

being implemented, one of which is the EGAP program.

The E-Governance for Accountability and Participation Program (EGAP program) (Project «Digital Agenda of Ukraine - 2020», 2020) is realized during 2015–2023 by the Eastern Europe Foundation and the Innovabridge Foundation in partnership with the Ministry of Digital Transformation of Ukraine. The program is implemented with the support of Switzerland, provided through The Swiss Agency for Development and Cooperation (SDC). The target regions are Vinnytsia, Volyn, Dnipropetrovsk, Luhansk and Odessa regions (E-Governance for Accountability and Participation (EGAP), with the support of Switzerland, 2022).

The work continues on two key components: the development of e-services and e-democracy both at the national level and in the regions of Ukraine (or at the community level).

Such a transformation not only contributes to the development of individual regions, but also accelerates the digitalization of the country as a whole and strengthens the decentralization processes taking place in recent years.

An interesting project of the Ministry of Digital Transformation is the introduction of «Smart City». This initiative was first taken by the capital, creating Kyiv Smart City in 2015, in order to technologize the capital of Ukraine - the city of Kyiv through the introduction of «Kyiv Card» projects: online recording and support of city projects with the establishment of an open data portal, online registration to doctor, electronic queue to

kindergartens, integrated video surveillance system, electronic petition system, etc. That is, all basic services of communal, private, city, state enterprises must be digitized and interconnected.

However, as of 2020, even Kyiv has reached only the first stage of «Smart City» 1.0, which means the lack of a common strategy, and that automation has affected individual, unrelated components.

Data openness is the foundation of both the information and digital societies. In order to promote the transparency of authorities, each government agency has a website or social network page that reflects the main news, general reports, project and planning indicators and it maintains public relations.

An important step in the development of open authority is the use of e-democracy tools. Electronic democracy is a form of public relations in which citizens and organizations are involved in state formation and public administration, as well as in local self-government through the widespread use of information and communication technologies in democratic processes, which allows to:

- strengthen the participation, initiative and involvement of citizens at the national, regional and local levels in public life;
- improve the transparency of the decision-making process, as well as the accountability of democratic institutions;
- improve the response of the subjects of power to the appeals of citizens;
- facilitate public discussions and draw citizens' attention to the decision-making process.

The most common tools of e-democracy used today in Ukraine at both the national and local levels are e-consultations, e-petitions, e-appeals, participation budgets (public budgets).

The resources have also been created for the publication of datasets in the form of open data, including the use of electronic platforms such as Civil Society and Government, Smart City or the Single System of Local Petitions, which combine several electronic tools for participation.

At the present stage of development the state online platforms have become a special source of information, they provide simplification of some services, promote the dissemination of information in society, and ensure digitalization of the population of Ukraine.

The «Action» platform is the main portal of today; it is created and managed by the Ministry of Digital Transformation (Project «Digital Agenda of Ukraine - 2020», 2020). «Action» is a multifunctional portal that is a direct link between the state and citizens. In general, the platform can be divided into the following main activities:

- Identification of the population with the help of electronic documents in the mobile application «Action»;
- Online service for providing public services;
- «Action. Digital Education «as an educational portal available to the public for the purpose of teaching digital literacy»;
- Small and Medium Business Assistance Portal «Action. Business».

Identification reform consists of the gradual reformatting into electronic form of old identification documents, the change in the outdated form of record keeping, the introduction of new standards and processes, etc. «Digitalization» of the sphere of citizen identification and introduction of both the state system based on ID-cards and alternative BankID and MobileID provide an opportunity to change the «paper» system of public administration, i.e. to make a «digital» leap in the development

of e-government, e-democracy. In addition, it is a powerful impetus to the development of e-commerce and «digital» economy in general.

Identification using BankID and MobileID for public services, especially in the implementation of deeds, etc., requires the creation of a state infrastructure for identification and verification of users of these tools. In this perspective, the issue of certification of international data protection standards (ECC, RSA) in Ukraine is also important. The main drivers of BankID and MobileID are respectively banking institutions headed by the National Bank of Ukraine and mobile operators. In this direction the key actions of state institutions should be the issues of standardization of electronic identification means, including in the field of data security.

In the future, access to information of all available portals will be provided from this mobile application. The portal allows you to receive services remotely, with the provision of official documents in electronic form. In this way, administrative services become more accessible to the population and business, and the connection between the state and the public becomes a question-and-answer forum.

The Single State Portal of Administrative Services managed by the Ministry of Economic Development and Trade of Ukraine is also quite easy to use (The Single State Portal of Administrative Services, 2022). This portal offers a wide range of services to citizens and businesses, but does not provide them with online access, but only ensures basic information about the service and where to receive it. Thus, this platform is more informative, but its basic information can be as additional material for the platform “Action”.

The tax policy of the state has always been burdened with accounting papers, constant recalculation of cash flows and grouping of

tax payments. The introduction of electronic registers of taxpayers by the State Tax Service allowed moving to the electronic circulation of documents with automated calculation of tax payments. The function to search for companies in the register of taxpayers under the USREOU code is also convenient to identify arrears of tax payments from businesses that the company cooperates with (State Tax Service of Ukraine, official portal, 2020).

Digitalization of customs also occupies a prominent place for the country’s economic system. The web portal «Single Window» was created to facilitate international trade; it is a reference and functional site of the State Customs Service of Ukraine. The site allows you to monitor the status of queues at checkpoints, calculates automatically the cost of customs duties, excise duties and other payments, as well as simplifies and speeds up the mechanism of submission of documents at customs control due to the electronic cabinet.

If the tax policy is directly related to business entities and the population, then the budget system concerns the administrative functions of the state. The platform «Open Budget» was developed to monitor the state budget of Ukraine, its implementation, analysis, as well as statistical and analytical data of local budgets. All cash flows, execution of approved budget items, the process of execution of local budgets are reflected by this platform in free access for all network users. Thus, the budget policy of the state becomes transparent and open (Web-portal State Budget for citizens «Open Budget», 2022).

In general, all official state platforms with the gov.ua domain have informative or informative-functional content to simplify the provision of administrative services. Digitization of such sources requires that citizens have some knowledge about these services, the use

of Internet resources or communication services and the use of the interface, as different age groups have different attitudes to such innovations.

For this the state must digitize additionally socio-economic spheres, and first of all, must create accessible educational programs for the population on the digitalization of society.

Thus, the «Action» platform also has educational resources - short videos that help users to master confidently the programs and to understand the legal and accounting basis of the services they use. The Digital Education program has information materials explaining clearly the innovative technologies of the modern world for both children and adults. Also under the conditions of quarantine, the digitalization of education has accelerated significantly, as education took place remotely in most of the country.

The Law of Ukraine «On Education» defines information and communication competence as one of the key competencies necessary for every modern person for successful life. In the Digital Competency Framework for citizens of Ukraine, the levels of mastery of competencies (basic, intermediate and high) are divided conditionally into sets of areas of competence:

- 1) basics of computer literacy;
- 2) information literacy, ability to work with data;
- 3) creation of digital content;
- 4) communication and interaction in the digital society;
- 5) security in the digital environment;
- 6) solving problems in the digital environment and lifelong learning (Project «Digital Agenda of Ukraine - 2020», 2020).

As a result of the reform, each person must master certain skills, form the worldview of the new digital society. At the same time, gov-

ernment activities should become transparent to society and, with the help of digital technologies, increase the efficiency of decision-making, and manage effectively financial flows, responding to all changes in society. For business, education reform will help to increase the competence of producers, facilitate access to export trade and create a more stable economic system with the possibility of strategic planning.

In accordance with the European Union program «European Health Strategy 2020» in Ukraine it is necessary to develop and ensure the implementation of the National Program «Health - 2020: the Ukrainian dimension», which will improve approaches to methods of solving pressing problems in the field of health care. «Digital» medicine should provide interaction among patients, health professionals and institutions through «digital» technologies. The transition of medical document management to digital format is a key goal of «digital» medicine in Ukraine.

A necessary condition for achieving this goal is the creation of a national Electronic Health Record (EHR) system. EHR is a dynamic set of systematized electronic data on the state of health of an individual patient, which provides information exchange among participants in the process of production and consumption of medical services.

Social programs that provide support to the population are also being digitized gradually. The most modern projects are considered to be E-residence, E-baby, which were proposed by the Ministry of Digital Transformation and introduced in 2020.

E-residency creates a special status of a foreign citizen in Ukraine, which opens access to information and consulting services, simplifies the procedures for obtaining administrative services and concluding civil law agree-

ments, as well as gives him the opportunity to establish and conduct business in Ukraine remotely. The project is created primarily for representatives of the creative industry - IT, marketing, advertising, and gaming.

E-baby - a complex service for parents of newborns. With one application you can get about 10 public services from different authorities at the same time. This simplifies the system of accounting for newborns and the time spent by parents on child registration.

CONCLUSIONS

Payment for goods and services in the digital society must be made entirely through electronic payment systems. In order to ensure a reliable system of electronic payments

and interbank settlements, the National Bank of Ukraine has created a system of electronic payments - SEP. It handles more than 96% of interbank settlements, as well as real-time customer transfers. On average, SEP processes 1.5 million payments worth about UAH 173 billion a day. However, the potential of SEP is much greater - the margin of SEP capacity allows processing almost 10 times more documents per day than the current volume.

Digitalization creates an accessible and open society and the transformation of public services into digital forms an effective dialogue between the public and the state. In general, digitalization extends to absolutely all functions of the state and provides intensive development of all spheres.

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